

RECOMMENDATIONS TO ECE GOVERNMENTS ON THE PREVENTION OF WATER POLLUTION FROM HAZARDOUS SUBSTANCES

*as adopted by the Committee on Environmental Policy at its first session (1994)*⁵

With a view to preventing, controlling and reducing the release of pollutants into the aquatic environment, thus promoting the implementation of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, pending its entry into force,

it is recommended that ECE Governments,

taking into account, *inter alia*, current water quality, water-quality requirements of present and future water users in the relevant catchments, requirements of aquatic and riparian flora and fauna, assessments of the risks involved, the urgency of control measures, and the economic feasibility:

1. Apply the indicative lists of priority hazardous substances (annex I), other substances with proven adverse effects (annex II), and industrial sectors/industries from which these substances derive (annex III) when developing, adopting and implementing policies, programmes and strategies covering the relevant catchment areas or parts thereof, both at the national level and through bilateral and multilateral agreements;
2. Take these substances into consideration when drawing up, individually and/or jointly with riparian countries, emission inventories and registers in the relevant catchment areas or parts thereof, compiling or revising catchment-specific lists of substances subject to control,

⁵ The full title of the recommendations adopted by the Committee on Environmental Policy at its first session (1994) reads *Recommendations to ECE Governments on the application of the indicative lists of priority hazardous substances, other substances with proven adverse effects, and industrial sectors/industries from which these substances derive*. establishing monitoring programmes, promoting

research and development programmes, setting water-quality objectives, elaborating action programmes for the reduction of pollution loads, and establishing time-schedules for compliance with water-quality objectives and action programmes;

3. Apply the indicative list of priority hazardous substances and the indicative list of industrial sectors/industries when setting emission limits for discharges of pollutants from point sources into surface waters based on the best available technology; and, where necessary, impose a total or partial prohibition of the production and use of individual substances;
4. Set, where appropriate, emission limits for discharges of pollutants included in the indicative list of other substances with proven adverse effects, taking into account the indicative list of industrial sectors/industries;
5. Apply other appropriate measures to prevent, control and reduce the input into the aquatic environment of pollutants included in the lists of priority hazardous substances and other substances with proven adverse effects. Such measures should include control of pollutants within industrial processes, substitution of substances, selective collection and pre-treatment of process water allowing recycling of water and recovery of valuable substances;
6. Promote the exchange of the best available technology, particularly between riparian countries bordering the same transboundary waters, for industrial sectors/industries included in the respective indicative list, and promote the exchange of information on advances in relevant research and development.

ANNEXES

ANNEX I

Indicative list of priority hazardous substances

1. Organohalogen compounds
 - Aldrin
 - Carbon tetrachloride
 - Chloroform
 - DDT and derivatives (p,p'-DDD and p,p'-DDE)
 - 1,2-Dibromoethane
 - Dichloroanilines (2,3- ; 2,4- ; 2,5- ; 2,6- and 3,4- Dichloroaniline)
 - 1,2-Dichloroethane
 - Dieldrin
 - Endosulfan
 - Endrin
 - Fluoroacetic acid and derivatives
 - Hexachlorobenzene
 - Hexachlorobutadiene
 - Hexachlorocyclohexanes, in particular Lindane (γ -HCH)
 - Isodrin
 - Pentachlorophenol
 - Polychlorinated biphenyls (PCBs)
 - Polychlorinated terphenyls
 - Tetrachloroethylene
 - 2,4,6-Trichloroaniline
 - Trichlorobenzenes (1,2,4- and 1,3,5-Trichlorobenzene)
 - 1,1,1-Trichloroethane
 - Trichloroethylene
2. Organophosphorus compounds
 - Azinphos-ethyl
 - Azinphos-methyl
 - Dichlorvos
 - Fenitrothion
 - Fenthion
 - Malathion
 - Parathion
 - Parathion-ethyl
 - Parathion-methyl
3. Organotin compounds
 - Tetrabutyltin
 - Tributyltin-compounds
 - Triphenyltin-compounds
4. Cadmium and cadmium compounds
5. Lead and lead compounds
6. Mercury and mercury compounds
7. Other substances which possess toxic, carcinogenic, mutagenic and/or teratogenic properties in or via the aquatic environment, such as:
 - Acrylonitrile
 - Atrazine
 - Benzene
 - Dinitrobenzenes (1,2- ; 1,3- and 1,4-Dinitrobenzene)
 - Dinitrotoluenes (2,4- ; 2,5- and 2,6-Dinitrotoluol)
 - Isobenzan
 - Simazine
 - Trifluralin
8. Persistent mineral oils and hydrocarbons of petroleum origin
9. Cyanides
10. Radioactive material and wastes

ANNEX II

Indicative list of other substances with proven adverse effects

1. Metalloids and metals and their compounds not referred to in the indicative list of priority hazardous substances, such as antimony, arsenic, barium, beryllium, boron, chromium, cobalt, copper, molybdenum, nickel, selenium, silver, tellurium, thallium, titanium, uranium, vanadium and zinc.
2. Phosphorous-acid and thiophosphorous-acid esters not referred to in the indicative list of priority hazardous substances, as well as inorganic compounds of phosphorus and elemental phosphorus.
3. Substances which have a proven deleterious effect on the taste and/or smell of products for human consumption derived from the aquatic environment and compounds liable to give rise to such substances in water.
4. Toxic or persistent organic compounds of silicon, and substances which may give rise to such compounds in water, excluding those which are biologically harmless or are rapidly converted in water into harmless substances.
5. Non-persistent mineral oils and hydrocarbons of petroleum origin.
6. Fluorides.
7. Ammonia and nitrites.

ANNEX III

Indicative list of industrial sectors/industries^a for which limits for discharges should be based on the best available technology

1. Mining and quarrying
 - ISIC 101:
Mining and agglomeration of hard coal, including the manufacture of briquettes or other solid fuels which consist chiefly of hard coal
 - ISIC 102:
Mining and agglomeration of lignite, including the manufacture of briquettes or other solid fuels which consist chiefly of lignite
 - ISIC 111:
Processing at the mining site of crude petroleum and natural gas
 - ISIC 120:
Mining and concentrating of uranium and thorium ores
 - ISIC 13:
Processing of iron ores and of non-ferrous metal ores other than uranium and thorium ores by thermal and chemical methods
 - ISIC 1421:
Processing (at the mining site) of chemical and fertilizer minerals
2. Manufacture of textiles, fur and leather
 - ISIC 1711:
Finishing of textiles
 - ISIC 182:
Dressing and dyeing of fur
 - ISIC 1911:
Tanning and dressing of leather
3. Manufacture of wood and of products of wood
 - ISIC 201:
Impregnating or chemical treatment of wood with preservatives or other materials
 - ISIC 202:
Manufacture of particle board and fibreboard as well as of densified wood

^a The given ISIC divisions, groups or classes are those of the United Nations International Standard Industrial Classification of all Economic Activities (ISIC), as published in document ST/ESA/STAT/SER.M/4/Rev.3.

4. Manufacture of pulp, paper and paper products

ISIC 2101:

Manufacture of pulp, paper and paperboard, cellulose wadding and webs of cellulose fibres

5. Publishing, printing and reproduction of recorded media

ISIC 222:

Printing including reproducing material carried out at printing works, printing laboratories, film laboratories and repro shops

6. Manufacture of coke, refined petroleum products and nuclear fuel

ISIC 231:

Manufacture of coke oven products

ISIC 232:

Manufacture of refined petroleum products

ISIC 233:

Processing of nuclear fuel

7. Manufacture of chemicals and chemical products**ISIC 2411:**

Manufacture of basic inorganic and organic chemicals

ISIC 2412:

Manufacture of fertilizers and nitrogen compounds

ISIC 2413:

Manufacture of plastics in primary forms and of synthetic rubber

ISIC 2421:

Manufacture of pesticides

ISIC 2422:

Manufacture of paints, varnishes and similar coatings

ISIC 2423:

Manufacture of pharmaceuticals, medicinal chemicals and botanical products

ISIC 2424:

Manufacture of cleaning and polishing preparations, perfumes and toilet preparations

ISIC 2429:

Manufacture of activated carbon, woody lignite and soot; explosives and pyrotechnic products; gelatine and gelatine derivatives; glues of animal origin and other prepared adhesives; photochemical products; and unrecorded media for sound recording or similar recording of other phenomena

8. Manufacture of rubber and plastics products

ISIC 251:

Manufacture of rubber products, retreading and rebuilding of rubber tyres

ISIC 252:

Manufacture of plastics products, such as plates, sheets, film and foil

9. Manufacture of other non-metallic mineral products

ISIC 261:

Manufacture of glass and glass fibres

ISIC 269:

Manufacture of aluminous-slag cement, asbestos-cement and cellulose fibre-cement; manufacture of slag wool and rockwool; manufacture of articles of asphalt or of similar material; manufacture of sharpening and polishing stones, in particular corundum

10. Manufacture of basic metals

ISIC 271:

Manufacture of basic iron and steel

ISIC 272:

Manufacture of basic precious and non-ferrous metals

ISIC 273:

Casting of iron and steel as well as non-ferrous metals

11. Metal-processing industry

ISIC 314:

Manufacture of accumulators, primary cells and primary batteries

ISIC 321:
Manufacture of electronic valves and tubes and other electronic components, such as printed circuits, electrical capacitors, and resistors

ISIC 28-35:
Metal-processing at electroplating plants, pickling plants, anodic oxidation plants, burnishing plants, hot galvanization plants, hardening shops and enamelling works

12. Recycling

ISIC 37:
Processing of metal and non-metal waste and scrap and of articles thereof, in particular by chemical processes

13. Electricity, gas, steam and hot water supply

ISIC 40:
Treatment of flue gases and exhaust air, slags and condensates deriving from the production of electricity, gas, gaseous fuel, steam and hot water

14. Sewage and refuse disposal, sanitation and similar activities

ISIC 900:
Treatment of flue gases and exhaust air, slags and condensates deriving from incineration of garbage, trash, rubbish and waste from households or industrial or commercial units

15. Other sectors

ISIC 24 and ISIC 731:
Manufacture and processing of micro-organisms and viruses with *in vitro* recombined nucleic acids

ISIC 502:
Maintenance and repair of motor vehicles

ISIC 7494:
Commercial and consumer photograph production, including processing of photograph and motion pictures

ISIC 9301:
Washing, and (dry-) cleaning of textile and fur products